5. ADF IMAGE SCANNING SECTION

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5. ADF Image Scanning Section

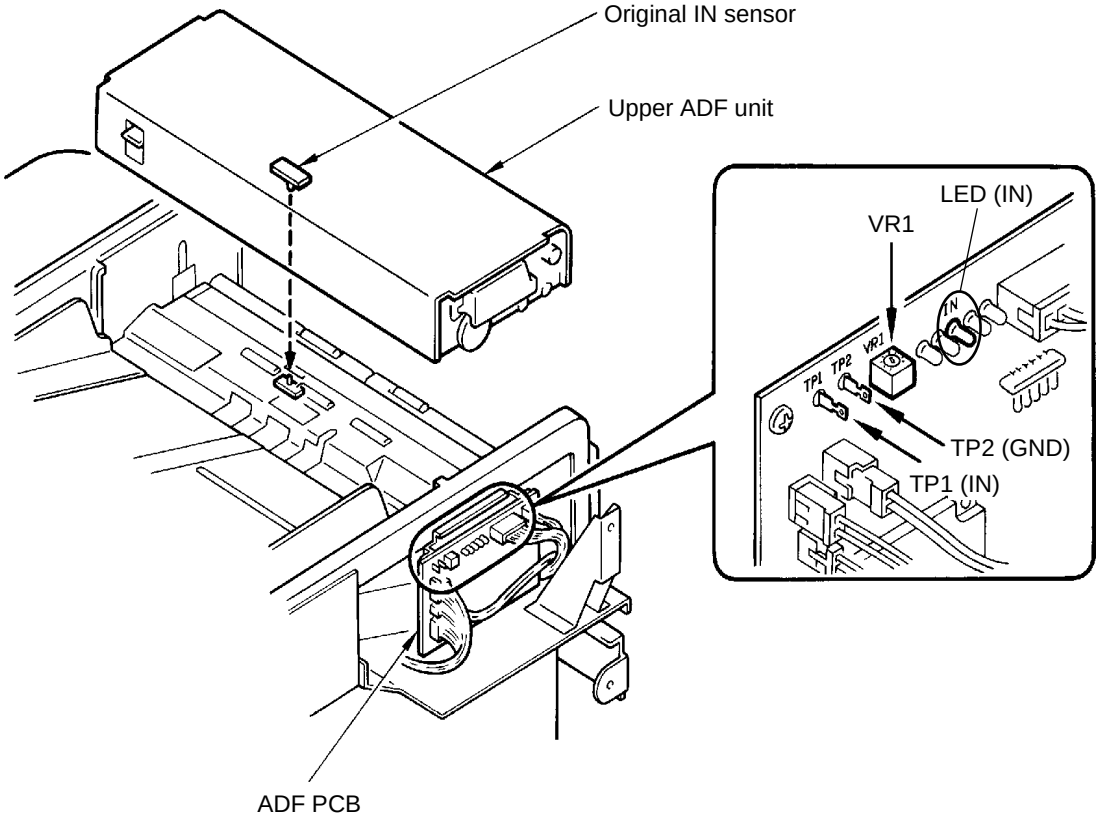
[Adjustment]

1. Sensitivity of Original IN Sensor

1. Turn OFF the power and remove the Back cover.
2. Connect a volt meter between **TP1 (IN)** and **TP2 (GND)** on the **ADF PCB**.
3. Turn ON the power and place a white sheet of paper in the light path of the Original IN sensor. The voltage should read **1.0±0.2 volts** with a sheet of paper and **more than 3.0 volts** without the paper (the light path of the Original IN Sensor not blocked).
4. If the above voltages are not obtained, adjust the sensitivity by turning **VR1** on the **ADF PCB**.
   [Note]
   Turn VR1 clockwise to increase the sensitivity of the sensor (the voltage increases).
   The counterclockwise rotation will decrease the sensitivity (the voltage decreases).
5 Confirm that **LED (IN)** is lit on the **ADF PCB** when a white sheet of paper is placed in the light path of the Original IN sensor and that it goes out when paper is removed.

- Results of Misadjustment-

- If the sensitivity is too high;
  the Original IN sensor cannot detect an original fed to the Image scanner and the machine assumes that the original has jammed before the Image scanner.
  As a result, the error code **[E 37]** (original jam at entrance) will be displayed on the panel.
- If the sensitivity is too low;
  the machine assumes that an original jams in the ADF unit at the start of operation and the error code **[E 37]** (original jam at entrance) will be displayed on the panel.



2. Scanning Start Position

1. Make a master using an original without the top margin
2. Check the master on the Drum to confirm that the top of the image is erased by **5±2mm**.
   [Note]
   Printouts can be used to check the above, but remember that the intent here is not the measurement of the top margin of the printouts, but the amount of image that is erased at the top of the original.
3. If the erased amount is more or less than **5±2mm**, use Memory SW **No.86** (Test mode No.86) to make correction.
4. When Memory SW **No. 86** is selected, the display on the panel will show **0 86**.
   The first digit "**0**" indicates a Memory SW setting.
5. Use the PRINT POSITION button ◁ or ▷ on the operation panel to select a desired Memory SW setting number, referring to the chart below.
   For instance, if Memory SW setting number **9** needs to be selected, press the PRINT POSITION button until the display shows **9 86**.
6. **To input a selected Memory SW setting into the memory, press the STOP button and then the ALL RESET button.**
   The panel display returns to an ordinary indication.

!! VERY IMPORTANT !!

- Precautions in Adjustment -

- The once-input Memory SW setting can not be erased even if Test mode **No.90** or **97** is activated or when the System ROM is replaced.
- The Memory SW setting is erased when the **System PCB** is replaced or when Test mode **No.98** is applied. In this case, all other Memory SW settings will also be erased.

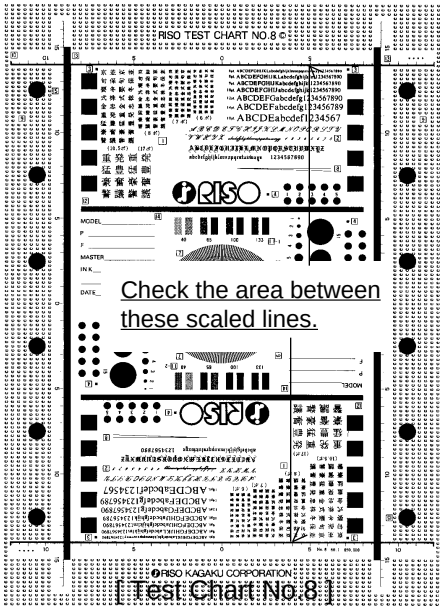
Setting No.	0	1	2	3	4	5	6	7
Pulses	0	+6	+13	+19	+25	+31	+38	+44
Adjustable Range (mm)	±0.0	+0.2	+0.4	+0.6	+0.8	+1.0	+1.2	+1.4
	8	9	A	B	C	D	E	F
	+50	-44	-38	-31	-25	-19	-13	-6
	+1.6	-1.4	-1.2	-1.0	-0.8	-0.6	-0.4	-0.2

3. Image Elongation/Shrinkage Correction

1. Make a master at **[1:1]** size using **Test chart No.8** and make prints.
2. Compare printouts with the test chart original.
   Check that the difference in image size is **within 4mm** in the area between the top and bottom scaled lines, between the printouts and the test chart original.
3. If it is elongated or shrunk **by 4mm or more**, compared to the original size, make corrections by turning the Hex SW **(SW3)** on the **Image processing PCB**, referring to the chart below.
   [IMPORTANT]
   Be sure to turn OFF the machine each time the Hex SW is turned to update the memory.

- Precautions in Adjustment -

- There may be more than one reason for elongation or shrinkage of printed image.
  Mechanical causes, i.e. backward tension on the master roll, wear of the Write roller, loose screws in the pulleys, etc. should also be checked.

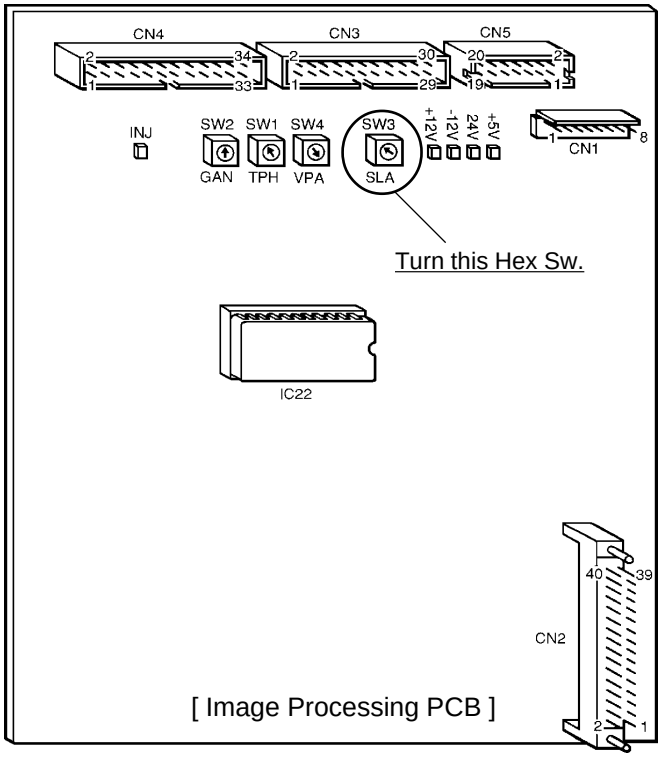


[Test Chart No.8]

← Elongates — | — Shrinks →

SW Setting	5	6	7	8	9	A	B	C
Adjustable Range (mm)	+3	+2	+1	0	-1	-2	-3	-4
Adjustable Range (mm) GR Series	+6	+4	+2	±0	-2	-4	-6	-8

***** The switch should be set at between **5** ~ **C** only.



[Image Processing PCB]

4. Horizontal Scanning Position

1. Make a master at **[1:1]** size using **Test chart No.8** and make prints.
2. Check if all "e" marks on both sides of the test chart original appear on the master on the Drum.
3. If not, adjust the horizontal scanning position by Memory SW **No.83** (Test mode No.83), referring to the chart below.
   [IMPORTANT]
   - If all "e" marks can't be recovered by the Memory switch adjustment, change the installation position of the Image scanner if possible.
   - In RA4900, if "e" marks on both sides are missing in a large area, check the installation position of the **Paper size potentiometer** under the Paper feed tray, referring to the page I-17, and the **Master making width adjustment**, referring to the page VII-17.

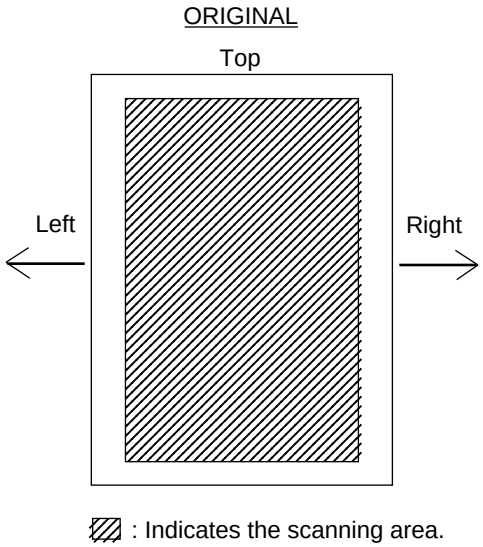
!! VERY IMPORTANT !!

- Precautions in Adjustment -

- The once-input Memory SW setting can not be erased even if Test mode **No.90** or **97** is activated or when the System ROM is replaced.
- The Memory SW setting is erased when the **System PCB** is replaced or when Test mode **No.98** is applied. In this case, all other Memory SW settings will also be erased.

< Memory SW No.83 >

Setting No.	Adjustable Range (mm)
9	-3.5
A	-3.0
B	-2.5
C	-2.0
D	-1.5
E	-1.0
F	-0.5
0	0
1	+0.5
2	+1.0
3	+1.5
4	+2.0
5	+2.5
6	+3.0
7	+3.5
8	+4.0

The scanning area slides to the left.

The scanning area slides to the right.